

Set	Items	Description
S1	468	(TWO OR BOTH OR DUPLICATE OR TWIN OR PAIR) (2N) ((SMART OR C-HIP OR IC) ()CARD OR SMARTCARD? OR ICCARD? OR CHIPCARD? OR MONDEX OR (SMART OR CHIP OR IC) ()CARD?)
S2	4450320	MUTUAL? OR RECIPROCA? OR COMMON? OR COMMUNAL? OR CONNECT? - OR CONJOINT? OR JOINT?
S3	10799631	AUTHENTICAT? OR CERTIFY? OR VERIF? OR DETERMIN? OR RECOGNI? OR JUDGE? OR VALIDAT? OR IDENTIF?
S4	388510	EACH (1N)OTHER? OR ONE(1N)ANOTHER?
S5	2732452	(MOBILE OR PORTABLE OR CELLULAR OR CELL OR WIRELESS) (2W) (D-EVICE? OR CLIENT? OR NODE? OR TELECOMMUNICATION? OR COMPUTER? OR PHONE? OR TELEPHONE? OR TERMINAL) OR CELLPHONE? OR CELL()P-HONE? OR WIRELESS OR WIRE()LESS OR RADIO?
S6	9	S1 AND S2 AND S3 AND S4
S7	4	S5 AND S6
S8	35	S1 AND S2 AND S3 AND S5
S9	2	S1 (S) S2 (S) S3 (S) S5
S10	18	S1 (S) S2 (S) S3
S11	24	S6 OR S7 OR S9 OR S10
S12	16	S11 NOT PY>1999
S13	14	S12 NOT PD>19990603
File	2:INSPEC	1969-2003/Oct W3 (c) 2003 Institution of Electrical Engineers
File	6:NTIS	1964-2003/Oct W4 (c) 2003 NTIS, Intl Cpyrght All Rights Res
File	8:Ei Compendex(R)	1970-2003/Oct W3 (c) 2003 Elsevier Eng. Info. Inc.
File	34:SciSearch(R)	Cited Ref Sci 1990-2003/Oct W3 (c) 2003 Inst for Sci Info
File	35:Dissertation Abs Online	1861-2003/Sep (c) 2003 ProQuest Info&Learning
File	65:Inside Conferences	1993-2003/Oct W4 (c) 2003 BLDSC all rts. reserv.
File	92:IHS Intl.Stds.& Specs.	1999/Nov (c) 1999 Information Handling Services
File	94:JICST-EPlus	1985-2003/Oct W4 (c)2003 Japan Science and Tech Corp(JST)
File	95:TEME-Technology & Management	1989-2003/Oct W2 (c) 2003 FIZ TECHNIK
File	99:Wilson Appl. Sci & Tech Abs	1983-2003/Sep (c) 2003 The HW Wilson Co.
File	103:Energy SciTec	1974-2003/Oct B1 (c) 2003 Contains copyrighted material
File	144:Pascal	1973-2003/Oct W3 (c) 2003 INIST/CNRS
File	202:Info. Sci. & Tech. Abs.	1966-2003/Sep 16 (c) 2003 EBSCO Publishing
File	233:Internet & Personal Comp. Abs.	1981-2003/Jul (c) 2003, EBSCO Pub.
File	239:Mathsci	1940-2003/Dec (c) 2003 American Mathematical Society
File	275:Gale Group Computer DB(TM)	1983-2003/Oct 28 (c) 2003 The Gale Group
File	434:SciSearch(R)	Cited Ref Sci 1974-1989/Dec (c) 1998 Inst for Sci Info
File	647:CMP Computer Fulltext	1988-2003/Sep W3 (c) 2003 CMP Media, LLC
File	674:Computer News Fulltext	1989-2003/Oct W4 (c) 2003 IDG Communications
File	696:DIALOG Telecom. Newsletters	1995-2003/Oct 27 (c) 2003 The Dialog Corp.

13/5,K/1 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

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5892461 INSPEC Abstract Number: B9805-6210L-155, C9805-5620W-096

Title: Security on the Internet: authenticating the user

Author(s): Botting, J.

Journal: Telecommunications (International Edition) vol.31, no.12

p.77-8

Publisher: Horizon House Publications,

Publication Date: Dec.1997 Country of Publication: USA

CODEN: TLCOAY ISSN: 0040-2494

SICI: 0040-2494(199712)31:12L:77:SIAU;1-C

Material Identity Number: L873-98001

Language: English Document Type: Journal Paper (JP)

Treatment: General, Review (G)

Abstract: One of the most **commonly** used forms of security today is the password. In recent years, however, unidentified hackers have deployed password gathering programs over the Internet which have succeeded in tens and thousands of passwords being collected and many abused. It is now clear that the traditional standalone password does not provide strong levels of **authentication** in today's networked environment, with or without encryption. This is because the same passwords are used over and over again and the password passes across the network as clear text. Although Internet 'break-ins' have received most of the publicity, the problem of illegal access is ubiquitous across networks of all types, especially corporate intranets, local area networks and wide area networks. The latest **two**-factor super **smart card** technology combined with encryption aims to **authenticate** the user, not just a password. (0 Refs)

Subfile: B C

Descriptors: authorisation; cryptography; Internet; local area networks; smart cards; wide area networks

Identifiers: security; Internet; user authentication; illegal access; corporate intranets; local area networks; wide area networks; smart card; encryption

Class Codes: B6210L (Computer communications); C5620W (Other computer networks); C6130S (Data security); C5620L (Local area networks)

Copyright 1998, IEE

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13/5,K/2 (Item 1 from file: 95)

DIALOG(R)File 95:TEME-Technology & Management

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01199108 I98041289300

Security on the Internet: authenticating the user

Botting, J

Telecommunications, International Edition, v31, n12, pp77-78, 1997

Document type: journal article Language: English

Record type: Abstract

ISSN: 0040-2494

ABSTRACT:

One of the most **commonly** used forms of security today is the password. In

recent years, however, unidentified hackers have deployed password gathering programs over the Internet which have succeeded in tens and thousands of passwords being collected and many abused. It is now clear that the traditional standalone password does not provide strong levels of **authentication** in today's networked environment, with or without encryption. This is because the same passwords are used over and over again and the password passes across the network as clear text. Although Internet 'break-ins' have received most of the publicity, the problem of illegal access is ubiquitous across networks of all types, especially corporate intranets, local area networks and wide area networks. The latest **two**-factor super **smart card** technology combined with encryption aims to **authenticate** the user, not just a password.

DESCRIPTORS: CIPHERING--ENCRYPTION; LAN--LOCAL AREA NETWORKS; SMART CARDS; LONG DISTANCE NETWORKS
IDENTIFIERS: AUTORISIERUNG; ANWENDERBERECHTIGUNG; INTRANET VEREINIGUNG; Verschlusselung; Lokales Netz

ABSTRACT:

One of the most **commonly** used forms of security today is the password. In recent years, however, unidentified hackers have deployed password...

...many abused. It is now clear that the traditional standalone password does not provide strong levels of **authentication** in today's networked environment, with or without encryption. This is because the same passwords are used...

...across networks of all types, especially corporate intranets, local area networks and wide area networks. The latest **two**-factor super **smart card** technology combined with encryption aims to **authenticate** the user, not just a password.

13/5,K/3 (Item 1 from file: 275)
DIALOG(R) File 275:Gale Group Computer DB(TM)
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02279331 SUPPLIER NUMBER: 54142790 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Plastic fantastic. (smartcards) (Technology Information)
Computer Weekly, 43(1)
March 11, 1999
ISSN: 0010-4787 LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 1162 LINE COUNT: 00094

GEOGRAPHIC CODES/NAMES: 4EUUK United Kingdom
DESCRIPTORS: Smart card; Technology development; Technology application
EVENT CODES/NAMES: 390 Nonmanufacturing technology
PRODUCT/INDUSTRY NAMES: 3679120 (Magnetic Cards)
SIC CODES: 3679 Electronic components, not elsewhere classified
NAICS CODES: 334613 Magnetic and Optical Recording Media Manufacturing
FILE SEGMENT: CD File 275

... square gold-coloured computer chip.

Most people are already familiar with the smaller format smartcards used in **cellular phones**, known as Subscriber Information Module (SIM) cards. The most **common** implementation of the full-size card in the UK is that used as a "viewing card" for...

...future, it should even be possible for multiple applications stored on the same card to interact with **each other**. Smartcards also provide us with so much more in the way of security than has been hitherto...

...recently introduced the SecurID 1100 Smart Card, the first smartcard to work with its Ace/Server strong **authentication** enterprise security solutions.

The new smartcard combines security with convenience, enabling organisations to use a single card...

...on the Gemplus MPCOS multi application microprocessor card, the SecurID 1100 Smart Card provides the Ace/Server **authentication** as well as offering more than 7Kbyte of free Eprom memory space for additional applications.

This moves...

...between the card reader and the smartcard's contacts

* Contactless smartcard - communicates via an antenna using a **radio** frequency signal. No physical contact is required between the card and a card reader

* Electronic purse - any small **portable device** which stores data with a monetary value. The smartcard is the ideal device to implement an electronic...

...stored value card.

* Security access module - is the dedicated microprocessor unit that allows the card reader to **authenticate** the user's identity.

* Subscriber information module (Sim) - a specific type of smartcard for GSM systems holding the subscriber's ID number, thus allowing him to call from any GSM device.

Summary

Smartcards can contain **both** memory software and a processor, allowing them to act as pure repositories or to run on-board...next generation of "smart phones", allowing you to browse the Web and order goods using just your **cell phone**.

13/5,K/4 (Item 2 from file: 275)

DIALOG(R) File 275:Gale Group Computer DB(TM)

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02265536 SUPPLIER NUMBER: 53680707 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Desktop Management: HP Continues to Lead With Manageability, Stability and Security Solutions for the Corporate Desktop. HP Vectra PC Solutions Provide Breakthroughs in Corporate IT Control. (Product Announcement)

EDGE: Work-Group Computing Report, NA

Feb 1, 1999

DOCUMENT TYPE: Product Announcement

LANGUAGE: English

RECORD TYPE: Fulltext

WORD COUNT: 704 LINE COUNT: 00062

COMPANY NAMES: Hewlett-Packard Co.--Product introduction

GEOGRAPHIC CODES/NAMES: 1USA United States

DESCRIPTORS: Software product introduction; Network security software; Network software

EVENT CODES/NAMES: 336 Product introduction

PRODUCT/INDUSTRY NAMES: 7372613 (Network Security Software); 7372620 (Network Software)

SIC CODES: 7372 Prepackaged software

NAICS CODES: 51121 Software Publishers

TICKER SYMBOLS: HWP

TRADE NAMES: HP ProtectTools (Network security software)--Product introduction

FILE SEGMENT: CD File 275

TEXT:

...in October 1998. Through this effort, HP aims to increase PC security within the network by eliminating **common** inter-network security risks and provide end users with seamless PC security. In the spring, HP's ...

...implement a corporate smart-card program. The accessory will include the following: o PC/SC standard-based **smart - card** reader; o **two smart cards** ; o Windows NT-compatible login software; and o single sign-on software. HP ProtectTools security features, available...

...O ports. HP's strong relationships with industry leaders such as

Microsoft, Gemplus, Schlumberger and HP subsidiary **VeriFone** mean that HP customers will receive the very latest in security technology as soon as it becomes...

...provider of computing, Internet and intranet solutions, services, communications products and measurement solutions, all of which are **recognized** for excellence in quality and support. HP has 124,600 employees and had revenue of \$47.1...

13/5,K/5 (Item 3 from file: 275)
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02215828 SUPPLIER NUMBER: 21108133 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Here, there, and everywhere. (News Briefs)
Lewis, Mark
Computer Weekly, p18(1)
August 27, 1998
ISSN: 0010-4787 LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 1670 LINE COUNT: 00132

FILE SEGMENT: CD File 275

TEXT:

...ready for the day when you can't use a fax machine because it physically doesn't **recognise** you.

... office is a serious issue, but a company called First Access believes it has the answer.

Its **Authentication** Suite provides a security solution for corporate networks, allowing computers to **authenticate** a user automatically "without any action on his part" from a distance of several metres. They call it "vicinity **authentication**". Users carry a card somewhere about their persons, which shares **identification** information and the user's security profile with a sensor. As you leave your desk, your workstation... ..modal nature -- having effortlessly used the MTR, you needn't then root around for change for a **connecting** bus. Moreover, says Pote, the Octopus cards "can already be used at photo booths and in payphones...

...BA is experimenting with smartcard passenger-tracking to try to improve punctuality.

In a recent trial, a **joint** project with electronic retail giant Philips, about 15,000 passengers were issued with cards when they checked ...all engine electronics on the card. All the personal settings of the driver - seat adjustment, steering wheel, **radio** station, mirrors - can be stored," and altered accordingly as you unlock the door. "You can also limit...

...had a high number of accidents and offences, and a poor record of recovering fines," says Brown. " **Smartcard** licences record **both** offences and unpaid fines." Local authorities expect the system to recover at least \$10m ((pounds)6.2m...

...Barclays - several branches are participating in the trial - and the bank generates digitally an electronic signature to **validate** their online applications. As well as easing the application process, it reduces paperwork for the government department...

...access to the information on it. The cards could also carry an electronic prescription that could be **validated** at the pharmacist."

The Royal Devon and Exeter Hospital had card-reader capacity in accident and emergency...

...or hospital specialist or pharmacist, their own card shows they are bona fide, the cards talk to **each other** and access is allowed."

13/5,K/6 (Item 4 from file: 275)

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02151937 SUPPLIER NUMBER: 20411806

Smartcard invasion continues. (includes related articles on developing smartcard applications, using smartcards and smartcard standards)
(Technology Information)

Cobb, Stephen

Byte, v23, n4, p112C(4)

April, 1998

ISSN: 0360-5280

LANGUAGE: English

RECORD TYPE: Abstract

ABSTRACT: Smartcards, already popularly used in Europe, has not caught the US market by storm. Analysts forecast, however, that the technology will become a universal means for **authenticating** computer users. **Smartcards** can implement **two**-factor **authentication**, with strong access controls to data and actual access control to a computer. When biometric **authentication** is added, three-factor **authentication** is in place. Security Dynamics and DataKey, the two top suppliers of token-based **authentication**, are now using smartcards as alternatives to their proprietary tokens. The Preboot Crypto API being **jointly** developed by RSA Security and Phoenix Technologies will hasten the application of smartcards for PC security.

SPECIAL FEATURES: photograph; table; chart; illustration

DESCRIPTORS: Smart Card; Technology Development; Technology Overview

PRODUCT/INDUSTRY NAMES: 3679120 (Magnetic Cards)

SIC CODES: 3679 Electronic components, not elsewhere classified

FILE SEGMENT: CD File 275

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13/5,K/7 (Item 5 from file: 275)

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02073929 SUPPLIER NUMBER: 19379865 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Data security for mobile and remote users. (includes directory of remote access devices, remote control and encryption software) (Technology Information)

Cobb, Stephen

Databased Web Advisor, v15, n5, p68(4)

May, 1997

ISSN: 1090-6436

LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 2717

LINE COUNT: 00210

ABSTRACT: Portable computer users should attempt to minimize the repercussions of computer theft by encrypting system data and regularly making full backups of hard drives. The small size of notebook computers makes them a more attractive target for thieves, and mobile users should carefully monitor its whereabouts whenever they travel. BIOS-based security features can be used to require passwords each time a system is started, and some encryption software packages offer thorough levels of data security, but password management must be taken seriously. The remote access points that telecommuters and mobile personnel use to gain entry into a corporate network are the most frequent point-of-entry for computer hackers. Two-factor authentication is increasingly used by computer and modem vendors to enhance security for notebook computer users.

SPECIAL FEATURES: illustration; table
DESCRIPTORS: Encryption; Data Security Issue; Notebook Computer;
Technology Overview
FILE SEGMENT: CD File 275

... and software solution that creates a special node on the network with the ability to receive and **authenticate** multiple incoming calls. The **connection** should be **authenticated** by something stronger than an ordinary password, such as a one-time password generated by a **smart card**

Two -factor authentication

Modem maker U.S. Robotics uses the SecurID system on its Total Control Enterprise Network...

13/5,K/8 (Item 6 from file: 275)
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02067209 SUPPLIER NUMBER: 19437816 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Disarming the Net. (security challenges resulting from connection to the Internet) (Network Edition) (Internet/Web/Online Service Information)
Erlanger, Leon
PC Magazine, v16, n11, pNE1(5)
June 10, 1997
ISSN: 0888-8507 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 3453 LINE COUNT: 00283

ABSTRACT: Establishing a Web presence and giving employees Internet access creates an entirely new set of security threats; malicious outsiders can infiltrate company systems. The first step in ensuring corporate Internet security is to establish a comprehensive security policy that clearly defines who has access to what services and establishes employee accountability for such responsibilities as protecting passwords. Firewalls, which act as barriers between internal and external networks and filter incoming and outgoing data, are **common** security tools. Some firewalls use simple packet filtering, while more sophisticated ones are application gateways. **Authentication** methods can include passwords, tokens and smart cards; many such products use a challenge/response system. Encryption helps prevent E-mail or Internet transactions from being intercepted. Virtual private networks (VPN) create secure 'tunnels' between two sites and are often used for secure remote access or electronic commerce.

SPECIAL FEATURES: illustration; photograph; table
DESCRIPTORS: Internet/Web Overview; Data Security Issue; Internet
FILE SEGMENT: CD File 275

Disarming the Net. (security challenges resulting from connection to the Internet) (Network Edition) (Internet/Web/Online Service Information)

...ABSTRACT: Firewalls, which act as barriers between internal and external networks and filter incoming and outgoing data, are **common** security tools. Some firewalls use simple packet filtering, while more sophisticated ones are application gateways. **Authentication** methods can include passwords, tokens and smart cards; many such products use a challenge/response system. Encryption...

TEXT:

Connecting with the Internet brings a host of new security challenges to your corporate network. Here are some...
... some malicious intent has a new way to infiltrate internal company systems and network devices: the Internet **connection**. Once inside, an intruder can find ways to snoop around; destroy, change, or steal data; and wreak...

...infrastructure as an inexpensive vehicle for linking two or more geographically isolated LANs and for remote access **connections**. And widespread Internet commerce, requiring millions of secret transactions, may be just around the corner.

The network security market is responding quickly to the Internet challenge by adapting existing **authentication** and encryption technologies to Internet **connections** and by developing new security products. The market today is a mess of evolving standards, technologies, and...

...your network for security problems, and a Web server protection package from Haystack Labs.

Security Policy

Internet **connections**, like any type of **connection**, will never be 100 percent secure. Rather than aiming for total security, an organization has to assess...

...be either to devise or to revise a comprehensive security policy for your organization that takes Internet **connections** into account. This policy should define in detail which employees have rights to which services. It should...

...taken if a security violation is detected. Such a policy can serve as an invaluable tool for **determining** where to put your security dollars. The Site Security Handbook, written by the Network Working Group of...

...security consulting. Once you establish a policy, you should start evaluating the use of firewalls, encryption, and **authentication**.

Firewalls

Mention Internet security and most people start talking about firewalls. Firewalls aren't an Internet security...

...specific Internet services, such as HTTP, FTP, and telnet, that run on a server with two network **connections**, acting as a server to the application client and as a client to the application server.

Since...

...as RealAudio. If you plan to use a firewall solely as a perimeter defense behind a T1 **connection** to your ISP, you may not have to worry about performance; the low bandwidth of the **connection** will become saturated before the firewall.

Many organizations, however, will want to consider using additional firewalls internally. Resources, that contain sensitive information. In such cases, performance is a concern, because the **connection** is likely to be 10-Mbps Ethernet or 100-Mbps Fast Ethernet. If you plan to use...

...to offer complete Internet security solutions. Most of these features will be discussed below. They include encryption, **authentication**, antivirus protection, protection from misbehaved Java and ActiveX downloads, and even server load balancing. If you're...

...and Haystack Labs' WebStalker, reviewed in First Looks, are products that concentrates on Web server protection, providing **authentication** as well as monitoring and alarms for unauthorized activities.

Authentication

Firewalls do their **authentication** using IP addresses which are assigned to each server, client, and network device and can be spoofed...

...access over the Internet to sensitive internal files and data, you'll want to make sure to **authenticate** the actual user. **Authentication** simply describes the numerous methods that positively **identify** a user. Passwords are the most **common** method of **authentication** used today, but users are notorious for making poor password choices that can be guessed by an...

...user carries around.

Many of these products use a challenge-response scheme. When the user attempts to **connect**, an **authentication** server on the network issues a

challenge, which the user keys into the token device. The device...

...those from Check Point, Raptor, and Trusted Information Systems. You simply configure the firewall products to forward **authentication** for certain services to the designated third-party server, or use any included **authentication** service.

Smart cards used for **authentication** are similar to tokens, except they require a smart card reader to process the challenge. Though these...

...expensive than tokens, ranging in price from \$40 to \$250 per user. Gemplus and SCM Microsystems are **two** manufacturers of **smart card** readers. PC Card devices are also available but more expensive.

Digital certificates, described in the following encryption discussion, are an up-and-coming **authentication** method that holds great promise for messaging and electronic commerce.

Encryption

As offices and organizations have **connected** to the Net in droves, many have begun eyeing the Internet infrastructure as an inexpensive vehicle for wide-area and remote **connections**. To use the Internet for these purposes, however, companies have to protect their information with encryption. Encryption in their messaging systems. This will allow the messaging systems to send secure e-mail to **each other**. They can also address several desktop e-mail encryption packages, including ConnectSoft's EMail Connection, OpenSoft's ExpressMail, and Deming Internet Security's Secure Messenger, support S/MIME. For...

...asymmetric RSA encryption.

This combined method of encryption not only assures data privacy, it also enables an **authentication** mechanism called the digital signature. Any value encrypted using the sender's private key **authenticates** the sender. Any data decrypted using the recipient's private key **authenticates** the recipient.

Public keys are generally **authenticated** with digital certificates, which accompany transactions and are signed by a certificate authority. A certificate authority, officially...

...larger, more public entity such as GTE, Nortel, or Verisign--well known for their stringent processes to **verify** identities and assign digital certificates. X.509 is the most widely used industry standard for defining digital...

...will be one of the primary security techniques used in the credit card and digital cash transactions **common** in electronic commerce. Secure Sockets Layer (SSL) is a transport-layer technology developed by Netscape to allow...

...used to describe remote access over the Internet, as well as use of the Internet infrastructure for **connecting** two offices of an organization or even two different organizations. Several firewall products provide VPN capability, including...

...Plus, and Trusted Information Systems' Gauntlet.

With remote access, the remote user calls the local ISP, then **connects** to the central network over the Internet. Two industry standards have recently become interoperable to make remote access and **connections** over virtual private networks a viable strategy--Ascends' and Microsoft's Point-to-Point Tunneling protocol and...

...now combined by the IETF to form the Layer Two Tunneling Protocol (L2TP). This standard essentially allows the **authentication** and authorization process to be forwarded from the ISP to a server located elsewhere on the Internet...

...It will enable VPN products that support the standard to communicate public keys and encryption algorithms with **each other** to set up VPN sessions. Again, most VPN products and firewalls supporting VPN plan to support IPsec...

...Technologies, Information Resource Engineering, RedCreek Communications, and VPNet. Several of the solutions are available for both network **connections** and the mobile user. Many of these devices handle key management automatically. Prices range from \$1,300...definitely see security-related standards finalized and Internet security solutions consolidated.

Meeting the Threats Here are six **common** Internet security problems and their solutions.

Interception of e-mail

Encrypt e-mail using desktop or server encryption hardware or software. Use digital signatures and certificates to **authenticate** senders and **verify** that e-mail has not been tampered with.

Theft or alteration of corporate information

Same procedures as...

...the perimeter with firewalls. If you want remote users to access sensitive internal data, set up an **authentication** server on the network and equip remote users with **authentication** tokens or smart cards.

Disruption of network devices and services

Protect the perimeter with firewalls. Set up an **authentication** server on the network and equip remote users with **authentication** tokens or smart cards.

Misbehaved Java and ActiveX applets

Configure firewalls to block Java and ActiveX applets...

13/5,K/9 (Item 7 from file: 275)
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01993304 SUPPLIER NUMBER: 18778746

Smart cards are open to new attack by hackers, say Israeli researchers.

(Technology Information)

Bank, David

Wall Street Journal , Mon ed, col 2, pB10A(W) pB14(E)

Oct 21, 1996

ISSN: 0193-2241

LANGUAGE: English

RECORD TYPE: Abstract

ABSTRACT: Smart cards are vulnerable to tampering, according to **two** Israeli researchers. **Smart cards** are promoted as a tamper-proof solution for computer security. They are expected to be widely used in the US for cash transactions, identity **authentication**, and access to buildings or equipment. The problem is not expected to be wide-spread because breaching the cards' security requires an in-depth knowledge of cryptography technology. The researchers used Differential Fault Analysis to break the Digital Encryption Standard, one of the most **common** cryptographic formulas. The technique causes a card to commit an error by subjecting it to microwave radiation or ionizing, then comparing faulty results with accurate results. The card can be easily counterfeited once the key is **identified**. Deployment of the cards is expected to continue, despite the security concerns, with **two billion smart cards** in circulation by the end of the century.

DESCRIPTORS: Smart Card; Data Security Issue; Technology Overview

PRODUCT/INDUSTRY NAMES: 3679120 (Magnetic Cards)

SIC CODES: 3679 Electronic components, not elsewhere classified

FILE SEGMENT: NNI File 111

ABSTRACT: Smart cards are vulnerable to tampering, according to **two** Israeli researchers. **Smart cards** are promoted as a tamper-proof solution for computer security. They are expected to be widely used in the US for cash transactions, identity **authentication**, and access to buildings or equipment. The problem is not expected to be wide-spread because breaching...

...technology. The researchers used Differential Fault Analysis to break the Digital Encryption Standard, one of the most **common** cryptographic

formulas. The technique caused a card to commit an error by subjecting it to microwave radiation...

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13/5,K/10 (Item 8 from file: 275)
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01427377 SUPPLIER NUMBER: 10638866 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Kyocera models its palmtop Refalo on the Filofax. (Kyocera Corp.) (product announcement)
Computergram International, n1560, CGI04250003
April 25, 1991
DOCUMENT TYPE: product announcement ISSN: 0268-716X LANGUAGE:
ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 349 LINE COUNT: 00025

COMPANY NAMES: Kyocera Corp.--Product introduction
DESCRIPTORS: Product Introduction; Laptop/Portable Computer; Hand-Held Computers
SIC CODES: 3571 Electronic computers
TICKER SYMBOLS: KYO
TRADE NAMES: Kyocera Refalo (Portable computer)--Product introduction
FILE SEGMENT: CD File 275

Sounds unlikely, but Kyocera Corp pioneered the notebook computer market, but its name is little known in **connection** with small computers because its original machines were sold only OEM - so Tandy Corp gets the credit...

...192Kb of RAM and standard RS-232 input-output interfaces and slots in the back cover for **two memory chip cards** for additional programs and for secondary storage. The machine looks like a Filofax, weighs just 1 lb ...

...enables the machine to be controlled entirely with the stylus. The company claims that the Refalo can **recognise** handwritten input when the user draws the characters one at a time in a grid of small...

...the ring binder, uses touch-sensitive alphanumeric keys and uses electromagnetic induction through the notebook rings to **connect** to the machine. Although the machine is fully operable without, an optional keyboard will be available using...

13/5,K/11 (Item 1 from file: 647)
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01120459 CMP ACCESSION NUMBER: IWK19970310S0019
Security - Window Of Vulnerability - Outside security breaches are rising, mainly because of the Net, but companies are starting to respond

Bob Violino and Beth Davis
INFORMATIONWEEK, 1997, n 621, PG14
PUBLICATION DATE: 970310
JOURNAL CODE: IWK LANGUAGE: English
RECORD TYPE: Fulltext
SECTION HEADING: Top Of The Week
WORD COUNT: 1625
TEXT:

First, the bad news:Corporate information systems are as vulnerable as ever to break-ins, with the Internet increasingly giving intruders

their window. Now the good news: Companies are finally expanding their IT security staffs and working closely with law-enforcement officials and security-product vendors to fight back.

... up security. Also, the company plans to use security tokens-hardware that provides encryption and two-factor **authentication** -for users who need access to sensitive data via the Internet. "There are tools that, if used...

...members.

"Since many of these organizations are competing, we're focusing on sharing information and building a **common** infrastructure without compromising proprietary information," says consortium president Daniel Schutzer, VP and director of advanced business technology...

...Washington that includes user organizations, has formed a committee to explore what private companies can do through **joint** efforts. A recent meeting drew representatives from 70 companies, including AT&T, Chrysler, Dow Chemical, IBM, Price...

...a broad platform to make recommendations on what's necessary to deal with the security problem, including **joint** security initiatives," says John Wilson, VP of technology policy at the council.

More **joint** security ventures are needed, particularly in the area of standards, says Ken Cutler, VP and director of...

...that the company uses, analysts, applications development people, engineers."

But industry experts say security breaches will remain **commonplace** as long as most companies refuse to acknowledge they could be hit. "Corporate America has been burying...server and every workstation," Deshpande says.

SKIP provides mechanisms to generate, transmit, and revoke keys used for **authentication** in public-key cryptography. Sun partners will deliver products next month that use SKIP, Deshpande says. Sun...

...trusted third party that manages the certificates.

Hewlett-Packard will broaden its security offerings this week with **two smart-card** solutions that include the cards, readers to scan the information stored on the processor embedded in the...

...toolkit to let third-party vendors build hooks into applications that can then use the smart-card **authentication** capability, says Thierry Costa, HP's global smart-card business manager. The cards will be integrated with...

...of products, security managers say hardware and software vendors must do more. "They need to work with **each other** and share their information and technologies to deliver security packages with interoperable products that support a variety...

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01108466 CMP ACCESSION NUMBER: EET19961028S0065

Smart cards have earned their stripes

James J. Farrell, Motorola Inc., Austin, Texas

ELECTRONIC ENGINEERING TIMES, 1996, n 925, PG86

PUBLICATION DATE: 961028

JOURNAL CODE: EET LANGUAGE: English

RECORD TYPE: Fulltext

SECTION HEADING: Design - IC Expo Highlights

WORD COUNT: 606

TEXT:

The standard magnetic-stripe card has been a booming success; today

there are several hundred million "mag-stripe" cards in circulation worldwide. The largest application, by far, is credit cards. Worldwide, there are over 375,000 ATM machines and over 12 million point-of-sale (POS) readers that will accept them.

... Smart cards" are becoming more attractive as the price of microcomputer power and storage continues to decline.

Smart cards have **two** main advantages over magnetic-stripe cards. First, they can carry up to 100 times as much information...
...a terminal. A smart card and a card reader can engage in a sequence of interactions that **validate** the card reader as well as the smart card-a form of **mutual authentication**. With the use of advanced algorithms, a credit-card holder will be able to use a local...

...smart card in 1977 for Cartes Bancaires.

Today, because of smart cards, French merchants rely on personal-**identification** numbers (PINs) to **verify** the ownership of a card simply by checking the PIN typed in by a customer against the...

...importance of the information involved, application system security might rely on any of several methods: a personal **identification** number like those used with automated teller machines, biometrics that uniquely **connect** the card to the card carrier, a mid-range encryption system such as the data-encryption standard...

...of contacts on the face of a smart card to make any card and reader compatible with **each other**.

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00656769

OpenCard Consortium Adds Four New Members
Report on Smart Cards
March 01, 1999 VOL: 13 ISSUE: 4 DOCUMENT TYPE: NEWSLETTER
PUBLISHER: BRP PUBLICATIONS
LANGUAGE: ENGLISH WORD COUNT: 278 RECORD TYPE: FULLTEXT

Four more companies have joined the OpenCard Consortium (OCC), bringing the organization's total to 19 members seeking interoperability among smart cards and computing devices. The new members

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COMPANY NAME(S): ActivCard Inc ; American Express Travel Related Services Co Inc ; Bull Personal Transaction Systems ; Dallas Semiconductor Corp ; First Access ; First Data Corp ; G International Inc ; Gemplus Corp ; Intellect Holdings Ltd ; IBM Corp ; Network Computer Inc ; Newcom Technologies Ltd ; OpenCard Consortium Management ; OCC ; Schlumberger Smart Cards & Terminals ; Siemens Microelectronics Inc ; Sun Microsystems Inc ; SCM Microsystems Inc ; Toshiba Inc ; Ubiq Inc ; Visa International
TEXT:

...deploy smart card-based solutions in any OpenCard-compliant environment. Based on Java technology, OCF provides a **common** interface for **both smart card** readers and the application on the card, with enhanced portability and interoperability. The OCC is working with Visa International to **identify common** areas of the OCF and the Visa Open Platform terminal specifications...

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00632257

GemClub-Memo Enables More Loyalty Offerings

Report on Smart Cards

November 2, 1998 VOL: 12 ISSUE: 20 DOCUMENT TYPE: NEWSLETTER

PUBLISHER: BRP PUBLICATIONS

LANGUAGE: ENGLISH

WORD COUNT: 1050

RECORD TYPE: FULLTEXT

Merchants looking for enhanced loyalty offerings from a smart card can use a new high-performance memory card issued Oct. 29 by Gemplus Corp. The GemClub-Memo greatly improves the economics of

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COMPANY NAME(S): Adicarte ; Corn Card International ; Coupling University ; Fleet ; Gemplus Corp ; Neptune Group ; Portsmouth City Council ; Portsmouth University ; Total ; University of Nebraska

TEXT:

...counters on its chip, allowing two applications to run on the card, either independently and secure of **each other**, or interactively. For example, a retailer can issue a single card with both a reward program and ...

...last month unveiled the GCR800-MS, a portable smart card reader designed for applications requiring mobility, user **authentication** and ...The reader's **twin smart card** interface can handle the reading and writing of two cards at the same time, a vital feature for **authentication** or digital signatures. A docking station for the card reader has an integrated modem that allows **connection** if required to a central server for data transfer or the updating of an application program...

...the home visits made by helpers. Adicarte is based on the use of the smart card to **identify** the service providers as well as the beneficiaries ...return the bike, it can be left at any depot where inserting the smart card again will **identify** the bike and user, then release a rack so that the ...an ideal way to accomplish this mission. As with the word 'plastic,' someday 'Mazin' will become a **common** household word worldwide ...